

REMARKS/ARGUMENTS

The Objection to the Specification

The Examiner objected to the specification as allegedly including browser executable code. The instances pointed to by the Examiner are not browser executable since the marks "<" and ">" are missing as well as "a href". Nevertheless, the specification has been amended to remove the reference to "http" since that is often included with browser executable code. All that remains are URLs.

Claim Amendments

The claims have been extensively amended to more clearly differentiate them from the prior art. In particular, claim 1 now reads as follows (with brackets including references to step(s) of Figure 2 which provide support for the claim language):

1. A method of defining a common interactions protocol between two entities, the method comprising:

converting syntactic specifications of multiple documents to be passed between the entities, into a skeleton semantic web ontology comprising a set of classes [see STEPS 102 – 108 of Fig. 2; the 'syntactic specifications' are the XML Schemas of Fig. 2, as is specified in claim 3];

deriving for each entity a respective set of constraints including semantic constraints established by the entity on aspects of the classes of the skeleton ontology; [see STEPS 110 – 118 of Fig. 2]

calculating the union of the two sets of constraints; [see STEP 120 of Fig. 2]

determining, using a constraint resolver that comprises a description logic reasoner, whether the union is satisfiable, and:

where the union is satisfiable, deriving from the intersection of the two sets of constraints a restricted document specification that is compatible with the constraint sets of both entities; and [see STEP 132 of Fig. 2]

where the union is not satisfiable, indicating where any incompatibility lies. [see STEP 126 of Fig. 2]

It should be noted that an important feature of this claim is that the reasoning about whether the union is satisfiable is over the semantic constraints relevant to all the documents - checking for semantic compatibility is not done piecemeal, document by document (which could miss inter-document incompatibilities).

Apart from claim 3 which specifies that the syntactic specifications are XML schemas, the remaining sub-claims concern two features:

Claim 9 – the ‘restricted document specification’ produced when the union of constraints is satisfiable comprises both a syntactic specification and a semantic specification (elements 200 and 202 in Figure 4)

Claims 13, 14, and 16-18 – constraints can be pre-specified as applying to deployment contexts (see Figure 7), then when the two parties decide to interact the particular deployment context is defined and used to determine which of the pre-specified constraints are applicable. Preferably (claim 14) the deployment contexts associated with pre-specified constraints are specified in general terms applicable to multiple actual deployment contexts.

The remaining claims have been cancelled without prejudice.

Prior art based rejections

With respect to the paper by the inventor, it states: "Protocol validation and protocol specific aspects of agreement formation are beyond the scope of this paper" (see the discussion bridging page 14 and 15 of that paper). The patent application is concerned with the communication protocols for business-to-business interactions and try to see if protocols from different companies are compatible.

In the Patent Application of Dan which the Examiner cited with reference to the last two steps of original claim 1, templates are split into sub components and are individually negotiated. In approach taken in the present Application, the union of the templates are compared as a whole, without having to decompose them into smaller units. This has a significant benefit for dealing with constraints that span across several components (example of such a constraint: if there are more than 100 line items in the invoice section, then set the field largeOrder to true in the delivery section). Dan is only looking at a subset (see paragraph 0044 ...'each sub negotiation involves a subset of all the items to be negotiated').

Claim 1 has been amended to make this distinct more clear. In amended claim 1 there is a set of constraints for each entity, this set of constraints being those applicable to all the documents concerned. Whether the union of the constraint sets is satisfiable is checked by a constraint resolver. As this check effectively covers the semantic constraints applicable to all the documents, it can pick up inconsistencies that span documents, something with Dan apparently cannot do.

Withdrawal of the rejections and allowance of the amended claims are respectfully requested.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 08-2025. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 08-2025.

I hereby certify that this correspondence is being electronically filed with United States Patent and Trademark Office on

Respectfully submitted,

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